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EXAMINER

GOFF II, JOHN L

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 07/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,752

Applicant(s)

TSUCHIMOTO ET AL.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 and 10-18 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 23 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment received 4/23/04. The previous 35 USC 112 rejections have been overcome. In view of applicants amendment the previous 35 USC 102 rejections over Wong et al. (U.S. Patent 3,332,601), Kahn et al. (U.S. Patent 3,772,128), and Around et al. (U.S. Patent 3,208,902) are withdrawn.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Applicant's election without traverse of Group I, claims 1-6 and 10-18, in the reply filed on 4/23/04 is acknowledged.

Claim Rejections - 35 USC § 102

4. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Ichikawa et al. (U.S. Patent 4,387,133).

Ichikawa et al. disclose a method of manufacturing a polarizer comprising laminating a polarizing film to a protective film with or without adhesive. Ichikawa et al. teach the method of manufacturing without using adhesive comprises providing a polarizing film, providing a protective film, heating the protective film such that it is softened, and contacting and pressing the films such that they are thermocompression bonded, i.e. bonded by the application of heat (e.g. from the latent heat of the softened protective film) and pressure (Column 1, lines 20-23

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and Column 7, lines 23-30). Ichikawa et al. teach the polarizing film may comprise a dyed hydrophilic polymer film, e.g. polyvinyl alcohol-iodine system, and the protective film may comprise vinyl polymer (Column 2, lines 40-45 and Column 3, lines 58-61).

5. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Hamada et al. (U.S. Patent 4,230,768).

Hamada et al. disclose a method of manufacturing a polarizer comprising laminating a polarizing film to a protective film with or without adhesive. Hamada et al. teach the method of manufacturing without using adhesive comprises providing a polarizing film (e.g. having a conventional thickness of 5 to 50 microns), providing a protective film, and contacting the films such that they are thermocompression bonded, i.e. bonded by the application of heat and pressure (e.g. at least contacting pressure) (Column 4, lines 1-12 and Column 6, lines 13-17 and 41, 44, and 45).

Claim Rejections - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. in view of either one of Land (U.S. Patent 2,237,567) or Crandon (U.S. Patent 3,051,054).

Ichikawa et al. is described above in full detail. As noted above, Ichikawa et al. teach the polarizing film may comprise a dyed hydrophilic polymer film, e.g. polyvinyl alcohol-iodine. However, Ichikawa et al. are silent as to specifically teaching the dyed hydrophilic polymer film is stretched. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the dyed hydrophilic polymer film taught by Ichikawa et al. one that was stretched as this was a well known and conventional technique in the art as shown for example by either one of Land or Crandon for improving the efficiency of the polarizer.

Land discloses a process for manufacturing a polarizer comprising a dyed hydrophilic polymer polarizing film, e.g. polyvinyl alcohol-iodine, that is stretched wherein stretching the polarizing film is performed to increase its efficiency (Column 1, lines 57-60 and Column 2, lines 1-5, 18-24). Crandon discloses a process for manufacturing a polarizer comprising a stretched, dyed hydrophilic polymer polarizing film, e.g. polyvinyl alcohol-iodine, wherein the steps of stretching the film to orient its molecules and dyeing the film to render it light polarizing are well known and conventional steps in the art (Column 2, lines 14-19 and 28-32).

Regarding claim 2, Ichikawa et al. teach heat during bonding is applied from the softened protective film such that the limitation of performing a heat treatment from the side of the protective film is met.

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Regarding claim 6, Ichikawa et al. teach bonding by pressing and applying heat from the softened protective film such that the limitation of applying simultaneous heat and pressure is met.

8. Claims 3-5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. and either one of Land or Crandon as applied to claims 1, 2, and 6 above, and further in view of Kahn et al. (U.S. Patent 3,772,128).

Ichikawa et al. and either one of Land or Crandon as applied above teach all of the limitations in claims 3-5 and 10 except for the specific lamination conditions, e.g. temperature, pressure, and time. However, regarding the temperature it is noted Ichikawa et al. teach using a softened protective film of for example vinyl and it would have been obvious to one of ordinary skill in the art at the time the invention was made to laminate the vinyl protective film taught by Ichikawa et al. as modified by either one of Land or Crandon to a polarizing film at temperatures above 90 °C as it is known in the same art to apply a vinyl protective film to a polarizing film at temperatures above 90 °C as shown for example by Kahn et al. such that only the expected results, that of laminating the vinyl protective film to the polarizing film, would be achieved. Regarding the laminating time, it is noted Ichikawa et al. do not specify any particular apparatus for laminating such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the laminating apparatus taught by Ichikawa et al. as modified by either one of Land or Crandon any well known and conventional apparatus including laminating nip rolls, as laminating nip rolls were well known in the same art for laminating a softened protective film to a polarizing film as shown for example by Kahn et al., the laminating nip rolls providing the advantage of high speed continuous lamination, i.e. thermocompression

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times of less than 5 seconds. Furthermore, regarding all of the laminating conditions including temperature, pressure, and time it would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine/optimize the laminating conditions as a function of the particular type of materials used, the thickness of the materials used, etc. as doing so would have required nothing more than ordinary skill and routine experimentation.

Kahn et al. disclose a process for manufacturing a polarizing panel. Kahn et al. teach the process comprises extruding a plastic sheet (e.g. formed of methacrylate, polystyrene, vinyls, etc.), contacting a polarizer (e.g. formed of foamed plastic such as polystyrene) with the softened sheet, contacting a preformed, protective film (e.g. formed of styrene polymer, vinyl polymer, etc.) with the polarizer to form a lay-up, and passing the lay-up through a pair of nip rollers to thermocompression bond (i.e. bonding under pressure from the nip rollers and heat, not less than 90 °C, from the softened sheet where the heat is applied to a side of the protective film) the layers together (Figure 1 and Column 1, lines 65-68 and Column 2, lines 10-19 and 47-53 and Column 3, lines 9-15 and 23-29).

9. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. and either one of Land or Crandon as applied to claims 1, 2, and 6 above, and further in view of Raabe et al. (U.S. Patent 4,370,374).

Ichikawa et al. and either one of Land or Crandon as applied above teach all of the limitations in claims 11-15 except for a particular teaching of using as the protective film one which is formed of two layers having different softening points. However, it is noted Ichikawa et al. are not limited to using a single layer protective film, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the protective film

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taught by Ichikawa et al. as modified by either one of Land or Crandon a protective film of the type taught by Raabe et al. which comprises at least two layers having different softening points to bond the polarizing film of Ichikawa et al. as modified by either one of Land or Crandon with a protective film by forming an excellent durable bond without blisters therebetween.

Raabe et al. disclose a multilayer plastic film useful as a protective film for plastic films including those used as polarizing films, e.g. foamed plastic bodies. Raabe et al. teach the multilayer film forms an excellent bond directly with the plastic films (i.e. the bond does not require the use of adhesives) that is free of blisters. Raabe et al. teach the multilayer film comprises at least two layers having different softening points wherein the low softening point layer has a softening point not less than 90 °C and the difference between softening points of the layers is not less than 10 °C (Column 1, lines 26-28 and 44-66 and Column 2, lines 47-50 and Column 4, lines 35-61).

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. in view of Hamada et al.

Ichikawa et al. is described above in full detail. Ichikawa et al. are silent as to a particular thickness for the polarizing film. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the thickness of the polarizing film taught by Ichikawa et al. any well known and conventional thickness such as 5 to 50 microns as it was well known to form polarizers from polarizing films having this thickness as shown for example by Hamada et al. and only the expected results would be achieved.

11. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. (U.S. Patent 3,322,601) in view of Raabe et al.

Wong et al. disclose a process for manufacturing a polarizer. Wong et al. teach forming a lay-up (i.e. analogous to the laminating/contacting step) comprising providing a bottom transparent, protective film (e.g. formed of styrene polymer, vinyl polymer, etc.), placing a polarizer (e.g. formed of foamed plastic such as polystyrene, methacrylate, etc.) on top of the bottom protective film, and placing a top transparent, protective film (e.g. formed of styrene polymer, vinyl polymer, etc.) on top of the polarizer. Wong et al. teach placing the lay-up in a press and applying simultaneous heat (not less than 90 °C) and pressure (i.e. thermocompression where the heat is applied from a side of the protective films) to the lay-up to bond the layers together (Figures 1-3 and Column 2, lines 64-72 and Column 3, lines 1, 8-15, 31-43, and 58-68). Wong et al. are silent as to using as the protective film one which is formed of two layers having different softening points. However, it is noted Wong et al. are not limited to using any particular protective film, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the protective film taught by Wong et al. the protective film taught by Raabe et al. which comprises at least two layers having different softening points to provide the foamed plastic polarizer of Wong et al. with a protective film by forming an excellent durable bond without blisters therebetween. Raabe et al. is described above in full detail.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. in view of Raabe et al.

Ichikawa et al. is described above in full detail. Ichikawa et al. are silent as to a particular teaching of using as the protective film one which is formed of two layers having different softening points. However, it is noted Ichikawa et al. are not limited to using a single layer protective film, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the protective film taught by Ichikawa et al. a protective film of the type taught by Raabe et al. which comprises at least two layers having different softening points to bond the polarizing film of Ichikawa et al. with a protective film by forming an excellent durable bond without blisters therebetween. Raabe et al. is described above in full detail.

Response to Arguments

13. Applicant's arguments with respect to claims 1-6 and 10-18 have been considered but are moot in view of the new ground(s) of rejection. Regarding applicants arguments to newly added claim 18 and that Raabe et al. do not teach a protective film comprising at least two layers having different softening points bonded onto at least one face of a polarizer without using an adhesive, it is noted Raabe et al. do teach a protective film comprising at least two layers having different softening points that may be bonded onto at least one face of a plastic film including foamed plastic films the advantage being that an excellent durable bond without blisters is formed without the use of an adhesive. Furthermore, Wong et al. and Ichikawa et al. teach bonding a protective film to a polarizing film wherein the polarizing film comprises a plastic and in the case of Wong et al. a foamed plastic such that because Wong et al. and Ichikawa et al. are not limited to any particular film it would have been obvious to use the film taught by Raabe et

al. in both Wong et al. and Ichikawa et al. to form an excellent durable bond without blisters between the protective film and the polarizing film.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John L. Goff



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